CLAIMS

What is claimed is:

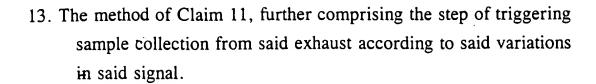
- A fabrication method, comprising the steps of:
 monitoring the exhaust of a process chamber; and
 automatically sampling said exhaust when a predetermined event
 occurs.
- 2. The method of Claim 1, wherein said step of monitoring is done using an in-situ particle monitor.
- 3. The method of Claim 1, wherein said step of sampling is done by inserting a collection device into said exhaust.
- 4. The method of Claim 1, wherein said event is the detection of a particle excursion.
- 5. The method of Claim 1, wherein said exhaust is sampled by redirecting said exhaust to a sampling area.
- 6. The method of Claim 1, wherein an electrical control signal of said process chamber is monitored and correlated to said event.

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- 7. A fabrication method, comprising the steps of: monitoring at least one signal of a process chamber; and sampling the exhaust from said process chamber when a predetermined event occurs.
- 8. The method of Claim 7, wherein said signal is an electrical control signal.
- 9. The method of Claim 7, wherein said predetermined event is a variation in said signal.
- 10. The method of Claim 7, wherein said predetermined event is the detection of a given particle flux by an in-situ particle monitor located in said exhaust.
- 11. A fabrication method, comprising the steps of:
 monitoring a signal from a process chamber;
 monitoring the exhaust from said process chamber; and
 correlating variations in said signal to particle excursions in said
 exhaust to produce relationships between said variations and
 said excursions.
 - 12. The method of Claim 11, further comprising the step of analyzing said particle excursion using said relationship.

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- 14. A wafer processing system, comprising:
 - a chamber with an exhaust;
 - a particle monitor located in said exhaust;
- wherein said particle monitor is connected to cause a particle sampler to gather samples from said exhaust.
 - 15. The system of Claim 14, wherein said sampler gathers samples by being inserted into said exhaust.
 - 16. The system of Claim 14, wherein said sampler gathers samples by opening valves so that said exhaust passes to a sampling area.
 - 17. The system of Claim 14, wherein said sampler is a membrane filter.
 - 18. The system of Claim 14, wherein said monitor causes said sampler to gather samples when a predetermined particle flux is detected.

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